

ABSTRACT

The present invention is directed to a metal valve stem seal and sealing system comprising a valve body; a metal valve stem housed within the valve body; a bonnet member housed within the valve body; a U-shaped metal stem gasket positioned between the metal valve stem and the bonnet member, wherein the gasket has a first lip member and a second lip member each having an interior surface and an exterior surface; a metal wedge ring fitted between the first and second lip members; and, at least one metal energizing spring adjacent the wedge ring, wherein the metal energizing spring applies a sufficient force to the wedge ring to cause the wedge ring to apply a sufficient contact pressure to the first and second lip members to form a seal between the gasket and the metal valve stem and to form a seal between the gasket and the bonnet member.